WHAT IS CLAIMED IS:

1. A method for making choices from a plurality of audio pieces, the method comprising:

receiving an audio fingerprint of a first audio piece;

searching a database for the audio fingerprint;

retrieving an audio profile vector associated with the audio fingerprint, the audio profile vector quantifying a plurality of attributes associated with the audio piece;

updating user preference information based on the audio profile vector; and

selecting a second audio piece based on the user preference information.

2. The method of claim 1 further comprising generating the audio fingerprint of the first audio piece, the generating including:

obtaining from an audio signal associated with the first audio piece a plurality of frequency measurements;

building a matrix A based on the frequency measurements;

performing a singular value decomposition on the matrix A, wherein $A = USV^T$;

retrieving one or more rows of matrix $V^T$;

associating the retrieved rows of matrix $V^T$ with the audio piece; and

storing the retrieved rows of matrix $V^T$.

3. The method of claim 2, wherein rows of the matrix A represent time, and columns of the matrix A represent the frequency measurements.

4. The method of claim 1 further comprising generating an index of the first audio piece, the generating including:

automatically obtaining from an audio signal of the first audio piece a list of musical notes included in the first audio piece;

determining from the audio signal a prominence of the musical notes in the first audio piece; and

selecting a pre-determined number of most prominent musical notes in the first audio piece as the index.

5. The method of claim 4, wherein the selected musical notes are translated to musical note numbers, and the index comprises the translated musical note numbers.

6. The method of claim 4, wherein data stored in the database is organized into one or more groups, wherein each group is identified by a particular index.

7. The method of claim 6, wherein the search of the database is limited to a group identified by the generated index.

8. The method of claim 1, wherein one of the attributes is a particular audio class, and the audio profile vector quantifies a degree of similarity of the audio piece to audio pieces associated with the particular audio class.

9. The method of claim 8 further comprising generating an identifier for the particular audio class, the generating including:

selecting the audio pieces associated with the particular audio class;

computing a second audio fingerprint for each selected audio piece;

calculating an average of the computed second audio fingerprints;

associating the calculated average to the particular audio class; and

storing the calculated average in a data store as the identifier of the particular audio class.

10. The method of claim 9, wherein computing of the second audio fingerprint comprises:

obtaining from a particular audio signal associated with the selected audio piece a plurality of frequency measurements;

building a matrix A based on the frequency measurements;

performing a singular value decomposition on the matrix A, wherein $A = USV^T$;

retrieving one or more rows of matrix $V^T$; and

associating the retrieved rows of matrix $V^T$ with the selected audio piece.

11. The method of claim 10, wherein rows of the matrix A represent time, and columns of the matrix A represent the frequency measurements.

12. An audio fingerprinting method comprising:

receiving an audio signal associated with an audio piece;

obtaining a plurality of frequency measurements of the audio signal;

building a matrix A based on the frequency measurements;

performing a singular value decomposition on the matrix A, wherein $A = USV^T$;

retrieving one or more rows of matrix $V^T$;

associating the retrieved rows of matrix $V^T$ with the audio piece; and

storing the retrieved rows of matrix $V^T$ in a data store.

13. The method of claim 12, wherein rows of the matrix A represent time, and columns of the matrix A represent the frequency measurements.

14. The method of claim 12, further comprising:

searching a database for the retrieved rows of matrix $V^T$; and

retrieving information on the audio piece upon a match.

15. The method of claim 14, wherein the information is an audio profile vector quantifying a plurality of attributes associated with the audio piece.

16. The method of claim 14, wherein the searching of the database further comprises:

identifying a subset of candidates in the database based on a plurality of musical notes of the audio piece; and

limiting the search to the identified subset.

17. An audio indexing method comprising:

receiving an audio signal of an audio piece;

automatically obtaining from the audio signal a list of musical notes included in the audio piece;

determining from the audio signal a prominence of the musical notes in the audio piece;

selecting a pre-determined number of most prominent musical notes in the audio piece;

generating an index based on the selected musical notes; and

searching a database based on the generated index.

18. The method of claim 17, wherein data stored in the database is organized into one or more groups, wherein each group is identified by a particular index.

19. The method of claim 18, wherein the search of the database is limited to a group identified by the generated index.

20. The method of claim 17, wherein the selected musical notes are translated to musical note numbers, and the index comprises the translated musical note numbers.

21. The method of claim 20, wherein data stored in the database is organized into one or more groups, wherein each group is identified by a particular index, the method further comprising:

comparing the translated musical note numbers in the generated index with note numbers included in an index identifying a group of data in the database; and

outputting a match indication if the index identifying the group includes at least a pre-determined amount of musical note numbers as in the generated index.

22. The method of claim 21, wherein the generated index includes four musical note numbers, and the match indication is output if the index identifying the group includes at least three of the four musical note numbers

23. The method of claim 17, wherein the database is an audio fingerprint database including compact representations of a plurality of audio pieces.

24. A method for generating an identifier for an audio class, the method comprising:

selecting a plurality of audio pieces associated with the audio class;

computing an audio fingerprint for each selected audio piece;

calculating an average of the computed audio fingerprints;

associating the calculated average to the audio class; and

storing the calculated average in a data store.

25. The method of claim 24, wherein computing of the audio fingerprint comprises:

obtaining from an audio signal associated with the audio piece a plurality of frequency measurements;

building a matrix A based on the frequency measurements;

performing a singular value decomposition on the matrix A, wherein $A = USV^T$;

retrieving one or more rows of matrix $V^T$;

associating the retrieved rows of matrix $V^T$ with the audio piece; and

storing the retrieved rows of matrix $V^T$.

26. The method of claim 25, wherein rows of the matrix A represent time, and columns of the matrix A represent the frequency measurements.

27. The method of claim 24, wherein the audio class is defined by a particular orchestration or instrumentation.

28. An audio selection system comprising:

a first data store storing a plurality of audio fingerprints for a plurality of audio pieces;

a second data store storing a plurality of audio profile vectors for the plurality of audio fingerprints, each audio profile vector quantifying a plurality of attributes associated with the audio piece corresponding to the audio fingerprint;

means for searching the first data store for an audio fingerprint of a first audio piece;

means for retrieving from the second data store an audio profile vector associated with the audio fingerprint;

means for updating user preference information based on the retrieved audio profile vector; and

means for selecting a second audio piece based on the user preference information.

29. The system of claim 28 further comprising means for generating the audio fingerprint of the first audio piece, the means for generating including:

means for obtaining from an audio signal associated with the first audio piece a plurality of frequency measurements;

means for building a matrix A based on the frequency measurements;

means for performing a singular value decomposition on the matrix A, wherein $A = USV^T$;

means for retrieving one or more rows of matrix $V^T$;

means for associating the retrieved rows of matrix $V^T$ with the audio piece; and

means for storing the retrieved rows of matrix $V^T$.

30. The system of claim 29, wherein rows of the matrix A represent time, and columns of the matrix A represent the frequency measurements.

31. The system of claim 28 further comprising means for generating an index of the first audio piece, the means for generating including:

means for automatically obtaining from an audio signal of the first audio piece a list of musical notes included in the first audio piece;

means for determining from the audio signal a prominence of the musical notes in the first audio piece; and

means for selecting a pre-determined number of most prominent musical notes in the first audio piece as the index.

32. The system of claim 31, wherein the selected musical notes are associated with musical note numbers, and the index comprises the musical note numbers.

33. The system of claim 31, wherein the audio fingerprints in the first data store are organized into one or more groups, wherein each group is identified by a particular index.

34. The system of claim 33, wherein the search of the first data store is limited to a group identified by the generated index.

35. The system of claim 28, wherein one of the attributes is a particular audio class, and the audio profile vector quantifies a degree of similarity of the corresponding audio piece to audio pieces associated with the particular audio class.

36. The system of claim 35 further comprising means for generating an identifier for the particular audio class, the means for generating including:

means for computing a second audio fingerprint for each of a plurality of selected audio pieces;

means for calculating an average of the computed second audio fingerprints;

means for associating the calculated average to the particular audio class; and

means for storing the calculated average as the identifier of the particular audio class.

37. The system of claim 36, wherein the means for computing the second audio fingerprint comprises:

means for obtaining from a particular audio signal associated with the selected audio piece a plurality of frequency measurements;

means for building a matrix A based on the frequency measurements;

means for performing a singular value decomposition on the matrix A, wherein $A = USV^T$;

means for retrieving one or more rows of matrix $V^T$; and

means for associating the retrieved rows of matrix $V^T$ with the selected audio piece.

38. The system of claim 37, wherein rows of the matrix A represent time, and columns of the matrix A represent the frequency measurements.

39. An audio fingerprinting system comprising:

a processor configured to:

receive an audio signal associated with an audio piece;

obtain a plurality of frequency measurements of the audio signal;

build a matrix A based on the frequency measurements;

perform a singular value decomposition on the matrix A, wherein $A = USV^T$;

retrieve one or more rows of matrix $V^T$; and

associate the retrieved rows of matrix $V^T$ with the audio piece; and

a data store coupled to the processor for storing the retrieved rows of matrix $V^T$.

40. The system of claim 39, wherein rows of the matrix A represent time, and columns of the matrix A represent the frequency measurements.

41. The system of claim 39, further comprising:

means for searching a database for the retrieved rows of matrix $V^T$; and

means for retrieving information on the audio piece upon a match.

42. The system of claim 41, wherein the information is an audio profile vector quantifying a plurality of attributes associated with the audio piece.

43. The system of claim 41, wherein the means for searching the database further comprises:

means for identifying a subset of candidates in the database based on a plurality of musical notes of the audio piece; and

means for limiting the search to the identified subset.

44. An audio indexing system comprising:

means for receiving an audio signal of an audio piece;

means for automatically obtaining from the audio signal a list of musical notes included in the audio piece;

means for determining from the audio signal a prominence of the musical notes in the audio piece;

means for selecting a pre-determined number of most prominent musical notes in the audio piece;

means for generating an index based on the selected musical notes; and

means for searching a database based on the generated index.

45. The system of claim 44, wherein data stored in the database is organized into one or more groups, wherein each group is identified by a particular index.

46. The system of claim 45, wherein the search of the database is limited to a group identified by the generated index.

47. The system of claim 44, wherein the selected musical notes are associated with musical note numbers, and the index comprises the musical note numbers.

48. The system of claim 44, wherein the database is an audio fingerprint database including compact representations of a plurality of audio pieces.

49. A system for generating an identifier for an audio class, the system comprising:

means for computing an audio fingerprint for each of a plurality of selected audio pieces;

means for calculating an average of the computed audio fingerprints;

means for associating the calculated average to the audio class; and

means for storing the calculated average in a data store.

50. The system of claim 49, wherein the means for computing the audio fingerprint comprises:

means for obtaining from an audio signal associated with the audio piece a plurality of frequency measurements;

means for building a matrix A based on the frequency measurements;

means for performing a singular value decomposition on the matrix A, wherein $A = USV^T$;

means for retrieving one or more rows of matrix $V^T$; and

means for associating the retrieved rows of matrix $V^T$ with the audio piece.

51. The system of claim 50, wherein rows of the matrix A represent time, and columns of the matrix A represent the frequency measurements.

52. The system of claim 49, wherein the audio class is defined by a particular orchestration or instrumentation.

53. An article of manufacture comprising a computer readable medium having computer usable program code containing executable instructions that, when executed, cause a computer to perform the steps of:

obtaining a plurality of frequency measurements of an audio signal associated with an audio piece;

building a matrix A based on the frequency measurements;

performing a singular value decomposition on the matrix A, wherein $A = USV^T$;

retrieving one or more rows of matrix $V^T$;

associating the retrieved rows of matrix $V^T$ with the audio piece; and

storing the retrieved rows of matrix $V^T$ in a data store.

54. The article of manufacture of claim 53, wherein rows of the matrix A represent time, and columns of the matrix A represent the frequency measurements.

55. An article of manufacture comprising a computer readable medium having computer usable program code containing executable instructions that, when executed, cause a computer to perform the steps of:

automatically obtaining from an audio signal of an audio piece, a list of musical notes included in the audio piece;

determining from the audio signal a prominence of the musical notes in the audio piece;

selecting a pre-determined number of most prominent musical notes in the audio piece;

generating an index based on the selected musical notes; and

searching a database based on the generated index.